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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,553	11/19/2001	Toru Kuroda	215149US0PCT	8589

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OBLON SPIVAK MCCLELLAND MAIER & NEUSTADT PC
FOURTH FLOOR
1755 JEFFERSON DAVIS HIGHWAY
ARLINGTON, VA 22202

EXAMINER

HAILEY, PATRICIA L

ART UNIT	PAPER NUMBER
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1755

6

DATE MAILED: 08/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-6

Office Action Summary	Application No. 09/926,553	Applicant(s) KURODA ET AL.	
	Examiner Patricia L. Hailey	Art Unit 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

Applicants' Preliminary Amendment, filed on November 19, 2001, has been made of record and entered. In this amendment, the Specification has been amended to correct a typographical error, and claim 10 has been amended to eliminate multiple claim dependency. No new matter has been added.

Claims 1-11 are pending in this application.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

In claim 1, the recited step of "using the precipitate as a material" is indefinite. Such a step alludes to any of a variety of known process steps, such as redispersing the material to produce another catalyst, or to produce another and materially different product.

Claims 2 and 6 are indefinite because there is no antecedent basis for the phrase "ammonium root". It cannot be determined if Applicants are referring to the amount of ammonium ions present in the "alkali metal compound and/or ammonia solution" recited in, for example, claim 1.

Claim 8 is indefinite because there is no antecedent basis for the phrase "a composition represented by the formula (1)". Claim 1 does not recite any formula. It appears that claim 8 was intended to depend from claim 5, which does recite a composition having a specified formula.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Documents were filed on November 19, 2001.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
6. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
7. **Claims 1, 2, 4-6, and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (U. S. Patent No. 4,165,296).**

Ishii et al. teach a process for regenerating an oxidation catalyst containing phosphorus, molybdenum, and alkali metal (e.g., potassium rubidium, and cesium). The catalyst may contain or have added thereto, as optional components that correspond to the elements represented by the variables A, D, X, Y, and Z in Applicants' claim 5. See col. 2, lines 6-18 of Ishii et al.

The catalyst is useful for the production of an unsaturated acid by the catalytic oxidation of an unsaturated aldehyde in the vapor phase. See col. 2, lines 19-26 of Ishii et al.

The catalyst is regenerated by adding an aqueous ammonia solution to the catalyst in the presence of a source of nitrate ion, e.g., nitric acid or ammonium nitrate. The regeneration takes place at temperatures from 20°C to 100°C. See col. 2, lines 27-39 of Ishii et al.

Following the regeneration step, the reaction mixture (deactivated catalyst and ammonia solution) is evaporated to dryness to form a solid residue, which is dried, pulverized, molded, and calcined in air (considered to read upon the phrase "heat-treated"). See col. 2, lines 40-68 of Ishii et al.

Example 1 of Ishii et al. discusses the preparation of a catalyst having a formula corresponding to that recited in Applicants' claim 5 when the variables d, e, g, and h are all 0. The catalyst is subjected to a continuous oxidation of methacrolein and a deliberate temperature increase to deactivate the catalyst. The deactivated catalyst is subjected to the aforementioned regeneration, including a calcination temperature of 400°C. Note also the comparisons between the originally prepared catalyst and the regenerated catalyst, as shown in Table 1, which have comparable values for the percentage conversion to methacrolein and percentage selectivity for methacrylic acid (considered to read upon the limitations of claim 11).

Ishii et al. do not specifically teach or suggest the claimed step of adjusting the pH of the mixture to generate a precipitate. However, such a step is seen to be effected by the employment of nitric acid or ammonium nitrate as the source of nitrate ion (col. 2, lines 36-39 of Ishii et al.), absent the showing of convincing evidence to the contrary.

Allowable Subject Matter

8. Claims 3 and 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

9. The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach or suggest the claimed step of removing all or part of the alkali metal component represented by the variable X (potassium, rubidium, or cesium) from the mixture prior to pH adjustment.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (703) 308-3317. The examiner can normally be reached on Mondays-Thursdays.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on (703) 308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0661.


Lynn Hailey/plh
Examiner, Art Unit 1755
August 9, 2002


Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700